



The College Of  
**WILLIAM & MARY**

Chartered 1693

Virginia Institute of Marine Science  
School of Marine Science

**Department of Environmental Sciences**

PO Box 1346

Gloucester Point, Virginia 23062-1346

USA

804/642-7260, FAX 804/642-7186

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LANTDIV

Attn: Code 1822 Mrs. Brenda R Norton

1510 Gilbert Street

Norfolk, Virginia 23511-2699

RE: Draft Summary of Background Constituent Concentrations and Characterization of the Biotic Community from the York River Drainage Basis. Naval Weapons Station Yorktown, Yorktown, VA

Dear Brenda,

I have reviewed the draft document entitled "Summary of Background Constituent Concentrations and Characterization of the Biotic Community from the York River Drainage Basis. Naval Weapons Station Yorktown, Yorktown, VA."

The effort expended at defining background conditions for both chemicals and biota was well spent. There seem to have been a sufficient number of stations established to produce useable comparative data. The selection of stations adjacent to the railroad, while introducing a certain bias, provides a realistic evaluation of the effect of some consistent background level of anthropogenic activity against which to compare the effect of an industrial activity. The monitoring wells in various sites away from specific SAs and SSAs will allow monitoring over extended periods should that be desired.

The following are some specific comments of various kinds, from simple editorial matters or questions to more substantive matters.

Section 1.1.2.5, ¶2, line 2: "a 2.5- to 3-foot *diameter*(???) diurnal change..." *diameter* seems inappropriate here.

Section 2.2, pg. 2-3: Reference is made to Newport News *County*. I believe this should read *City of* Newport News.

Section 2.8.2, pg. 2-14: I was startled to read that "tree frogs" (i.e. *Hyla* sp?) were found in Ballard Creek. This might be possible if you sampled during the breeding season, but I would expect to find bull, pickerel, etc. frogs (i.e. *Rana* sp.). I was also struck by the absence of the freshwater palaemonid, *Palaemonetes paludosus*, and the mosquito fish, *Gambusia affinis* or



*G. holbrooki*, in the freshwater ponds on the base. I would expect the ponds to have the plant "coontail" (*Ceratophyllum demersum*) which is ideal habitat for these species, both of which are found in ponds such as Haynes Mill Pond in Gloucester County. A surveillance of the shallows of the ponds would quickly determine if the plants are present, allowing localized sampling to see if the decapod and fish species are present. Of course, if the ponds are managed to exclude coontail, the absence of these species at the stations sampled may in fact represent conditions in the ponds.

Table 5-23: A genus "*Fungulus*" is listed which is one I have never encountered before. Are you sure this shouldn't be "*Fundulus*," i.e. the mummichog or a related species in the same genus? Also, the table lists "Sea Robin" as occurring in Timberneck Creek. I suppose the species could occur this far up the estuary, but I would consider it most unusual...I would expect a salinity at the site somewhere around 15 which is quite low for this species. It is also somewhat surprising to see spot listed as occurring in the tidal freshwater portion of Taskinas Creek; this is a marine species that only partially invades the estuary to about 10.

Section 6.2.2.1: The range for the Shannon-Wiener index in the referenced table is 0.005 to 0.435, not 0.005 to 0.413.

Section 6.2.2.2: The number of individuals ranged from 29 to 400 and the Brillouin's Index from 0.388 to 0.659 in the referenced table, not as cited in the text.

Table 6-1 to 6-9: No indication of the units is provided for these data. I assume the values are all in units of mg/kg (for soil and sediment samples) or mg/l (for water samples).

If you need any clarification regarding my concerns, do not hesitate to call.

Sincerely yours,



Morris H. Roberts, Jr.  
Professor of Marine Science and Chair,  
Department of Environmental Sciences